

WE CLAIM:

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1. An absorbent pad, comprising:
between 30 and 85 wt% superabsorbent material homogeneously mixed
with between 15 and 70 wt% pulp fluff;
wherein the absorbent pad has a density greater than about 0.28 grams
per cubic centimeter, an absorbent capacity between about 14 and 40 grams 0.9 w/v%
saline solution per gram of absorbent pad, and a thickness in a range of between 0.5
and 3.0 millimeters.
2. The absorbent pad of Claim 1, wherein the absorbent pad has a
density greater than about 0.30 grams per cubic centimeter.
3. The absorbent pad of Claim 1, wherein the absorbent pad has a
density greater than about 0.32 grams per cubic centimeter.
4. The absorbent pad of Claim 1, wherein the absorbent pad
comprises between 40 and 80 wt% superabsorbent material.
5. The absorbent pad of Claim 1, wherein the absorbent pad
comprises between 50 and 75 wt% superabsorbent material.

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6. The absorbent pad of Claim 1, further comprising a plurality of man-made fibers.

7. The absorbent pad of Claim 1, further comprising a plurality of carrier particles.

8. The absorbent pad of Claim 1, wherein the absorbent pad is between 0.6 and 2.5 millimeters thick.

9. The absorbent pad of Claim 1, wherein the absorbent pad is between 0.7 and 2.0 millimeters thick.

10. The absorbent pad of Claim 1, wherein the absorbent pad has an absorbent saturation capacity of at least 16 grams 0.9 w/v% saline solution per gram of absorbent pad.

11. The absorbent pad of Claim 1, wherein the absorbent pad has an absorbent saturation capacity of at least 18 grams 0.9 w/v% saline solution per gram of absorbent pad.

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12. *az* The absorbent pad of Claim 1, wherein the absorbent pad has a gel strength of at least 0.65.

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13. The absorbent pad of Claim 1, wherein the absorbent pad has a gel strength of at least 0.75.

14. The absorbent pad of Claim 1, wherein the absorbent pad has a gel strength of at least 0.85.

15. An absorbent article comprising the absorbent pad of Claim 1.

16. A diaper comprising the absorbent pad of Claim 1.

17. A training pant comprising the absorbent pad of Claim 1.

18. A feminine hygiene product comprising the absorbent pad of Claim 1.

19. An incontinence product comprising the absorbent pad of Claim 1.

20. A swim wear garment comprising the absorbent pad of Claim 1.

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21. An absorbent pad, comprising:
between 30 and 85 wt% superabsorbent material;
between 15 and 70 wt% pulp fluff;
wherein the absorbent pad has a density greater than about 0.30 grams per cubic centimeter, a thickness in a range of between 0.5 and 3.0 millimeters, and the superabsorbent material forms a gradient within the absorbent pad.
22. The absorbent pad of Claim 21, wherein the absorbent pad comprises between 40 and 80 wt% superabsorbent material.
23. The absorbent pad of Claim 21, wherein the absorbent pad comprises between 50 and 75 wt% superabsorbent material.
24. The absorbent pad of Claim 21, further comprising a plurality of man-made fibers.
25. The absorbent pad of Claim 21, further comprising a plurality of carrier particles.
26. The absorbent pad of Claim 21, wherein the absorbent pad is between 0.6 and 2.5 millimeters thick.

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27. The absorbent pad of Claim 21, wherein the absorbent pad is between 0.7 and 2.0 millimeters thick.

28. The absorbent pad of Claim 21, wherein the absorbent pad has an absorbent saturation capacity between about 14 and 40 grams 0.9 w/v% saline solution per gram of absorbent pad.

29. The absorbent pad of Claim 21, wherein the absorbent pad has an absorbent saturation capacity of at least 16 grams 0.9 w/v% saline solution per gram of absorbent pad.

30. The absorbent pad of Claim 21, wherein the absorbent pad has an absorbent saturation capacity of at least 18 grams 0.9 w/v% saline solution per gram of absorbent pad.

Suba3 31. The absorbent pad of Claim 21, wherein the absorbent pad has a gel strength of at least 0.85.

32. The absorbent pad of Claim 21, wherein the absorbent pad has a gel strength of at least 0.85.

33. The absorbent pad of Claim 21, wherein the absorbent pad has a gel strength of at least 0.85.

34. The absorbent pad of Claim 21, wherein the absorbent pad includes more superabsorbent material at a first end than at a second end opposite the first end.

35. The absorbent pad of Claim 21, wherein the absorbent pad includes more superabsorbent material along a top surface than along a bottom surface.

36. The absorbent pad of Claim 21, wherein the absorbent pad includes more superabsorbent material along a bottom surface than along a top surface.

37. The absorbent pad of Claim 21, wherein a concentration of the superabsorbent material varies throughout the gradient by about 0.01 to about 0.40 grams per cubic centimeter.

38. The absorbent pad of Claim 21, wherein a concentration of the superabsorbent material varies throughout the gradient by about 0.05 to about 0.35 grams per cubic centimeter.

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39. The absorbent pad of Claim 21, wherein a concentration of the superabsorbent material varies throughout the gradient by about 0.15 to about 0.25 grams per cubic centimeter.

/ 40. A method of making absorbent pads, comprising the steps of:
homogeneously mixing superabsorbent material and fluff pulp in a forming chamber of an online drum former;
wrapping a porous fabric over a forming screen on a forming drum of the drum former;
forming an absorbent pad from the homogeneously mixed superabsorbent material and fluff pulp as the homogeneously mixed superabsorbent material and fluff pulp exits the forming chamber onto the forming screen; and
compacting the absorbent pad to a density of at least 0.28 grams per cubic centimeter after the absorbent pad leaves the forming screen.

41. The method of Claim 40, further comprising the step of directing an additional mass of the homogeneously mixed superabsorbent material and pulp fluff into at least one area of the absorbent pad.

42. The method of Claim 40, further comprising the step of placing a mixing nozzle in the forming chamber.

43. The method of Claim 40, wherein the absorbent pad is compacted using a compaction roll.

44. The method of Claim 40, wherein the absorbent pad is compacted using a heated nip.

45. The method of Claim 40, further comprising the step of humidifying the homogeneously mixed superabsorbent material and fluff pulp.

46. The method of Claim 40, further comprising the step of embossing a pattern onto the absorbent pad.

47. The method of Claim 40, wherein the porous fabric comprises a woven polyester fabric.

48. The method of Claim 40, wherein the forming screen comprises a flat screen.

49. The method of Claim 40, wherein the forming screen comprises a shaped pad zoned absorbent screen.

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50. The method of Claim 40, further comprising the step of mixing man-made fibers with the superabsorbent material and the fluff pulp.

51. The method of Claim 40, further comprising the step of mixing carrier particles with the superabsorbent material and the fluff pulp.

52. The method of Claim 40, further comprising the step of compacting the absorbent pad to a density of at least 0.30 grams per cubic centimeter.

53. The method of Claim 40 further comprising the step of compacting the absorbent pad to a density of at least 0.32 grams per cubic centimeter.

54. The method of Claim 40 further comprising the step of compacting the absorbent pad to a thickness of between 0.5 and 3.0 millimeters.

55. The method of Claim 40 further comprising the step of compacting the absorbent pad to a thickness of between 0.6 and 2.5 millimeters.

56. The method of Claim 40 further comprising the step of compacting the absorbent pad to a thickness of between 0.7 and 2.0 millimeters.

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